Hatching the Fish That We Expect to Catch

Requires More Patience Than Waiting for a Bite Says Man Who Feeds a Million With a Feather

By EARL CHRISTMAS

THE man with a million babies! Yes, millions of them. Think of it—a million babies or so to feed for breakfast! And not the tiniest infant in all the world demands the patience and tender care that these babies require of this mere man. Such is the man who runs a fish hatchery.

Take the case of Oliver W. Mix. Mr. Mix is the foreman of the state fish hatchery at St. Paul, Minnesota. Every year he turns out into the waters of Minnesota a total of some 65,000,000 tiny fish, part of a vast horde hatched yearly by the state to re-populate its lakes and streams. Last year, eight state hatcheries in Minnesota hatched and placed in the waters of the state some 258,000,000 fish. With its 10,000 lakes and numerous streams, Minnesota is one of the great fishing resorts of the country, and the extensive fish propagation work undertaken by the state is part of a program to preserve and develop this resource.

Many states have entered into the interesting and highly important task of raising fish to replenish the supply in their lakes and streams. Incidentally, they are doing the job faster and better than nature could do it. But few states have the possibilities for development held by the almost limitless waters of Minnesota.

Two hundred and fifty million fish—that's a staggering total when you try to measure its extent, and it is suggestive only of the amount of work involved, the amount of patience and care required being to the uninitiated quite as incomprehensible as the total.

The trout-hatching season is now at its height. While snow and ice cover the streams and the lakes, and fishermen are telling their stories about the winter fires, the fish hatchery starts turning out its yearly horde. Tiny brown fry, a half inch long, more or less, flounder about in the water at the hatcheries by the thousands, yes millions, the origin of uncounted delights for the men who follow the lure of the trout streams.

The hatchery over which Mr. Mix presides at St. Paul, the biggest in the state of Minnesota, turns out 5,000,000 trout every winter. In the spring, Mr. Mix will be hatching the pike perch, and doing the job better than nature could do it. That will add more millions to his yearly troubles, some 60,000,000 or 70,000,000.

And to all these millions of tiny fish, Mr. Mix must give his personal attention.

"It's just like so many babies," he said. "These trout here, for instance, begin coming to the top of the water for food when they are three weeks old. We plan to ship them out to the streams before that time, but often we are unable to do so. Then we usually wait until we have a carload ready to ship at a time.

"They must be fed when they come to the top. The sac or yolk of the egg remains attached to each little trout after hatching, providing food for the first three weeks. After that sac disappears, they begin coming to the top of the water for food, and we have to be on the job with the food.

"Just now, I am feeding only about 300,000. That isn't so bad. But sometimes I have to feed a million or so. There have been times when I had to feed the whole hatchery. You take a feather and feed them three times a day and—"

"But how many does the hatchery hold?" I asked.

"Something more than 5,000,000," he said.

"Feeding 5,000,000 fish with a feather three times a day—well, what would you do with your spare time?"

"Oh, I manage to keep busy during the hatching season," Mr. Mix continued. "We never would have to feed so many under the present plan, where we have our own cars, unless something in the way of a transportation tie-up resulted. Sometimes, when we couldn't get cars at the time we wanted them, we would find ourselves with large numbers to feed on our hands.

"Now, the state owns a special car, and the crews make the distributions more regularly. Sometimes, we might have to feed a million this way, but usually it would be around a half million or less.

"You take a feather and spread the food around over the water evenly, so that all the fish will get a chance. If you don't they will go to eating one another. If you don't spread the food over the water with the greatest care, many of the little fry will die."

Feeding several million fish with a feather ordinarily would commend the patience of any man, and not many women would be disposed to question its eloquent testimony. Sometimes before breakfast, however, Mr. Mix will count the tiny fish in one of the pans at the hatchery just to see if his estimates are running true to form. In one of these pans, used in the hatching of trout, there are 10,000 fry. The pan is one foot wide and about two feet long. Sometimes Mr. Mix finds he has miscalculated by 50 or 100 or sometimes by only 10.

Top—The eggs of the trout are placed in pans in running water. The eggs are about an eighth of an inch in diameter. Center—OLIVER W. MIX, who finds that running a big state fish hatchery qualifies a man for a medal when it comes to patience. Bottom—This picture shows a section of one pan of the tiny trout in the fry stage, about three weeks after hatching. Less than an inch in length, they are called fry; longer than an inch, fingerlings. Most fish are shipped from hatcheries in the fry stage.

Full of strange and interesting insights into the wonders of nature is the fish hatchery. For instance, if you should go down to a trout hatchery and find a man feeding his fish with a feather, you probably never would guess what he is feeding them.

The miniature trout, when they get big enough to eat, demand a diet of liver. And liver they get despite the high cost of meat. The liver is ground into fine particles and mixed with water. The mixture is spread evenly over the surface of the water with a feather, and the fish do the rest.

The tiny fish require from 50 to 100 pounds of liver a week, when about half a million are being fed. When the number is larger, the food bill at the hatchery becomes a serious item.

"But the tiny fry and fingerlings aren't the only fish that need meat," Mr. Mix explained. "The meat for the brood stock sometimes runs as high as $148 a month. In the summer, they eat 600 pounds of beef lungs and liver a week. If we stop giving them meat, the fish begin to disappear. You see, they eat the young and weaker.

"Even the little pike start eating each other if we don't ship them out soon after they hatch. I have seen a string of them, two or three inches long. One fish would try to eat another, and as the head of the little pike is comparatively large, it couldn't be done. He would get the job just about half finished, when he'd get stuck. Another hungry little pike would come along and try to eat the second, swallowing away at his tail until he, too, got stuck. Others would try the same thing, until there would be seven or eight in the string, all dead."

But feeding the fish isn't the only concern of the man who runs a fish hatchery.

"The water must be kept at the right temperature, and there must be a proper circulation of the water while the eggs are hatching," Mr. Mix explained. "If there isn't proper circulation, the little trout may be crippled. As it is, there are all kinds of freaks. Sometimes there are fish with two heads, some with three heads. Some are twins.

"The spawning season for the trout usually begins in October. It requires from 90 to 100 days for the eggs to hatch. The tiny eggs, stripped from the trout, are kept in little square pans in running water until they hatch. Running water is necessary, because the presence of air in the water is necessary."

When the fish hatch, they go into oblong pans in the long troughs of running water in the hatchery. In each of these pans, a foot wide and about two feet long, 10,000 tiny trout wiggle about while the white sac is disappearing from their bodies. If they begin to lose the precious sac of food too soon, a stream of ice water, turned into the trough, serves to check their growth while the railroad hurries its cars.

For the pike perch, with eggs much more numerous, a different system is used. The pike eggs are placed in jars. When the fish hatch, they come to the top, and flow off through numerous tanks and pipes into the shipping tank. The pike hatch in much less time than the trout, and must be shipped out at once, having no such three weeks' food supply as the tiny trout. So the pike hatching season, beginning usually some time in April and lasting a month, is a frantic rush at the fish hatchery. In that month, some 65,000,000 pike are hatched and sent out from the hatchery over which Mr. Mix presides.

Brook trout constitute the great bulk of trout hatched at the Minnesota hatcheries, though brown trout, lake trout and steelhead trout are hatched in lesser numbers. Pike perch, however, because of their more prolific nature, form the greatest part of the yearly production. Of the 258,241,323 fish planted last year, pike perch numbered 248,788,000, while brook trout numbered 7,041,096.

"Replenishing our fish supply is a task of tremendous importance," said E. W. Cobb, state superintendent of fisheries. "Minnesota and other states with good lakes and streams for fish might well spend two or three times as much as they do in this work. Our fish are just like our forests. We realize their importance after they are gone. Unless we pay greater attention to protecting our fish and propagating more, they will go the way of our great forests."

Anyway, while serving as a much-needed institution of conservation, the fish hatchery is a most interesting place. For instance, the hatchery at St. Paul has developed a species of white brook trout. With a beautiful white skin and lithe body, they skim through the darkened water of the pools, the cynosure of all eyes of the fish kingdom, you might imagine as you watch them dart here and there.

But this time beauty is a delusion and a snare. The white fish—"Albinos," they call them at the hatchery—have a very high visibility and a correspondingly high mortality. All their enemies can see them too well.

The kingfishers sit in a tree overlooking the pond, and when a white streak appears in the water below, dart like an arrow into the water, pinning the fish with their sharp bills.

Perhaps man wasn't so kind in developing a race of white fish. However, Mr. Mix has provided a covering for part of the pool where the Albinos live, and they can seek refuge there when the kingfishers get too thick. And a rifle helps keep the casualities as low as possible. All this and more falls to the lot of the man who runs a fish hatchery. Perhaps no other man handles the destinies of so many living beings, and he has the champion long-distance record for patience.